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09/887,040	06/25/2001	Gershon Elber	01/21686	7400

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G.E. EHRLICH (1995) LTD.  
c/o ANTHONY CASTORINA  
SUITE 207  
2001 JEFFERSON DAVIS HIGHWAY  
ARLINGTON, VA 22202

EXAMINER

HAILU, TADESSE

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 12/05/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/887,040

Applicant(s)

ELBER ET AL.

Examiner

Tadesse Hailu

Art Unit

2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 25 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 07 September 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

DETAILED ACTION

1. This Office Action is in response to the patent application (09/887,040) filed June 25, 2001.
2. The present patent application claims priority from domestic US Application 60/233,487 filed September 19, 2000.
3. The pending claims 1-47 are examined as follows:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-15, 40-41, 43-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Gadh et al (US 6,629,065 B1).

With regard to claim 1:

Gadh illustrates (see fig. 25A-D) and discloses (column 24, lines 6-63) a virtual object (such as block b2 or b3 of fig. 25A-D) for use in a virtual environment (such as block b1 of fig. 25A-D) the virtual object comprising at least a visible appearance element (see b2 or b3 of fig. 25A-D), and an internal coordinate system (see the local coordinate at b2 or b3 of fig. 25A-D) for positioning within said virtual environment with respect to said virtual object.” (See Gadh, Figs. 25A-25D; also see column 23, lines 45-column 24, and lines 63).

With regard to claim 2:

Gadh also illustrates (see Gadh, Figs. 25A-25D) and describes (column 24, lines 6-63) that the local (internal) coordinate system includes unit lengths defined in terms of dimensions of a bounding shape of said virtual object.

With regard to claim 3:

Gadh also illustrates (see Gadh, Figs. 25A-25D) and discloses (column 24, lines 6-63) that the internal co-ordinate system is shown as a Cartesian coordinate system (see Gadh, Figs. 25A-25D).

With regard to claim 4:

Gadh also describes (column 24, lines 6-32) and illustrates (Figs. 25A-25D) that said bounding shape has a width, a height and a depth, and said internal coordinate system that includes axes having a fixed direction with respect to directions of said width, height and depth.

With regard to claim 5:

Gadh further describes (column 23, lines 45-column 24, lines 63) and illustrates (Figs. 23, 24A-24D, and 25A-D) movable to positions, in said virtual environment, express able in terms of said width, said height and said depth.

Art Unit: 2173

With regard to claim 6:

Gadh further describes (column 24, lines 6-32) that the expressions of said locations includes natural language description for each direction.

With regard to claim 7:

Gadh further describes (column 24, lines 6-32) that said natural language descriptions are selected from a group of natural language direction command comprising left, right, rear, top, bottom, etc.

With regard to claim 8:

Gadh further describes that a virtual object such as b2 or b3 of figs. 25A-D is arrange able in terms of said natural language direction commands (column 24, lines 6-32).

With regard to claims 9 and 10:

Gadh further illustrates (Figs. 24A-D, 25A-D) and describes (column 23, lines 45-column 24, lines 63). As shown in said Figs., the virtual object (b3) is positioned on top of another virtual object (b2) within the virtual environment (b1). User can relocate or reposition a virtual object as he/she prefers.

With regard to claim 11:

Gadh further describes (column 24, lines 6-32) said virtual object and said other virtual object are logically displayed according to positioning logic associated with said virtual environment.

With regard to claim 12:

Gadh further describes (column 24, lines 6-63) and illustrates (Figs. 24A-D, 25A-D) that a designated location associated therewith is compatible with an unrestricted range of objects (such as virtual objects b2 and b3).

With regard to claim 13:

As described above, Gadh further describes (column 23, lines 45-column 24, lines 63) said designated position associated therewith for selective positioning of a second object thereat is selectively compatible with a subset of objects.

With regard to claims 14 and 15:

Gadh, as described above, again describes (column 23, lines 45-column 24, lines 63) a virtual environment for user interaction (Figs. 24A-D, 25A-D), comprising at least a first virtual object (e.g., b3) and a second virtual object (e.g., b2) and at least a relationship between them (positioning relationship, i.e., b3 on top of b2), wherein said relationship is selectable to specify an action of said second object.

With regard to claim 40:

Gadh illustrates and describes a method for moving a first virtual object (Fig. 25A-D, child node, b3 or b2) from a first position (Fig. 25A) to a selected second position (Fig. 25B-D) associated with a second virtual object (Fig. 25A-D, parent node, b1), within a virtual environment, each virtual object being approximated by a bounding box (Fig. 25A-D) and having an internal co-ordinate system (Fig. 25A-D), the method comprising: selecting said first object, defining a move of said first object into proximity of said second object using said first object internal co-ordinate system, operatively associating said first object with said second

object, and positioning said first object (b3 or b2) with respect to said second object (b1) in terms of said internal co-ordinate system (column 23, lines 45-column 24, lines 63).

With regard to claim 41:

Gadh describes automatically adjusting positioning of said first object with respect to said second object so that said first object and said second object are logically displayed (column 27, lines 12-19, column 24, lines 6-32).

With regard to claim 43:

Gadh illustrates and describes a method for constructing a menu of available and permitted user interactions with a first object having at least one user definable relationship within a virtual environment, said method comprising: constructing a list of a priori user interactions characteristic of said first object, adapting said list of user interactions by addition of a further list of optional interactions that characterize the at least one user definable relationship to provide said menu (Figs. 4, 5A-C, column 18, lines 14-67, column 24, lines 6-32).

With regard to claim 44:

Gadh describes a method for constructing a menu of available and permitted user interactions with a first object having at least one user definable relationship within a virtual environment, said method further comprising displaying said menu to user (Figs. 4, 5A-C, column 18, lines 14-67, column 24, lines 6-32).

With regard to claim 45:

Gadh further describes that said menu is displayable by locating a cursor over said virtual object (Figs. 4, 5A-C, column 18, lines 14-67, column 24, lines 6-32).

With regard to claim 46:

Gadh describes a virtual object having an associated menu of available interactions (Fig. 4) with other objects, said object having dynamically changeable states, said menu being changeable dynamically in accordance with changes of available interactions consequent upon said changes in state (Figs. 4, 5A-C, column 18, lines 14-67, also column 24, lines 6-32).

With regard to claim 47:

Gadh further describes said states are selected from appearance states, position states, and function states (column 18, lines 14-67, column 24, lines 6-32).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 16-24, 27-39, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadh et al (US 6,629,065 B1) and Chithambaram et al (US 2001/0045949 A1).

With regard to claim 16:

As describes above Gadh illustrates (Figs. 24A-D, 25A-D) and discloses (column 24, lines 6-63) a virtual environment comprising at least one virtual object (b3 or b2) and having a series of potential relationships (positioning relationship, i.e., b3 on top of b2), of said virtual object. Gadh also illustrates (Fig. 4) and discloses (column 17, lines 27-column 18, lines 10) user interaction tool, a virtual locator, a hand held pointer with one or more buttons, and its real-world orientation is represented on a display as a line extending from a virtual hand (as



illustrated in Figs. 4a-4c. however, Gadh does not explicitly show a tooltip. As known in a Graphical data manipulation art, and also as disclosed in Chithambaram (Fig. 6, page 8, [0101]) a tooltip display is used during manipulating (or pointing) at a displayed object.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate tooltip display with Gadh's virtual locator. Since tooltip may contain context information or selectable command, the incorporation of this tooltip enables the user to interact with the environment with less keystroke or with less button click and without initiating a menu bar or toolbar. Thus, the performance of interacting with the environment will be enhanced.

With regard to claim 17:

Gadh in view of Chithambaram illustrates (figs. 25A-D) and describes (column 24, lines 6-63) a virtual object having a bounding shape, wherein said bounding shape has a width, a height and a depth, and said internal coordinate system comprises axes having a fixed direction with respect to directions of said width, height and depth.

With regard to claim 18:

Gadh in view of Chithambaram describes selecting one of the options from said tooltip (see Chithambaram, page 8, paragraph [0101] and [0102]).

With regard to claim 19:

Gadh in view of Chithambaram illustrates (figs. 6 and 7) and describes (Chithambaram, page 8, paragraph [0101] and [0102]) that said tooltip is displayable automatically upon a cursor passing over said virtual object.

With regard to claim 20:

Gadh in view of Chithambaram describes context information, such as map locations, are associated with parts of said object for display with said tooltip upon selection of said object part (Chithambaram, page 8, paragraph [0101] and [0102]).

With regard to claims 21 and 22:

As described above, Gadh in view of Chithambaram describes a relationship, such as a positioning relationship, i.e., b3 on top of b2 (see Gadh, figs. 25A-D) in said environment.

With regard to claim 23:

Gadh in view of Chithambaram illustrates (Figs 25A-D) a predetermined preferential location such as placing one virtual object on top of another virtual object and accepting editing (such as relocating) the predetermined types of objects (column 23, lines 45-column 24, lines 63).

With regard to claim 24:

Gadh in view of Chithambaram illustrates (Chithambaram, fig. 1), wherein Chithambaram can operate on a network/internet distribute system, wherein plurality of users can view and share similar information (map picture and other data) displayed on a web browser (Chithambaram, page 4, [0044]).

With regard to claim 27:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 23, lines 45-column 24, lines 63) that said first object comprises at least a visible appearance element, and an internal coordinate system.

With regard to claim 28:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that the associated coordinate system is a Cartesian coordinate system.

With regard to claim 29:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said virtual object further comprises a bounding shape having a width, a height and a depth, and said associated coordinate system has axes having a fixed direction with respect to directions of said width, height and depth.

With regard to claim 30:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that locations in the vicinity of said object, are expressible in terms of said width, said height and said depth.

With regard to claim 31:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said expressions of said locations comprise units for each direction with respect to a corresponding dimension of said boundary box.

With regard to claim 32:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said expressions of said locations comprise natural language descriptions for each direction.

With regard to claim 33:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-63) that said natural language descriptions are selected from a group comprising left, right, up, bottom, etc.

With regard to claim 34:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said location is a preferred position for positioning other objects thereat.

With regard to claim 35:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that at least one virtual object is selectable according to a query expressed using said natural language descriptions.

With regard to claim 36:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that at least one virtual object is arrange able according to a query expressed using said natural language descriptions.

With regard to claim 37:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said first virtual object has a designated location associated therewith for selective positioning of a second object thereat, so that first virtual object and second virtual object are logically displayed according to positioning logic associated with said virtual environment.

With regard to claim 38:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said first virtual object has a designated location associated therewith for selective

positioning of a second object thereat, where said designated location is compatible with any object.

With regard to claim 39:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) that said designated location associated therewith for selective positioning of a second object thereat is selectively compatible with a subset of objects.

With regard to claim 42:

Gadh in view of Chithambaram illustrates (Figs. 25A-D) and describes (column 24, lines 6-32) said automatic adjustment comprises associating said first object with a predetermined position on said second object and repositioning said first object to locate onto said predetermined position.

7. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadh et al (US 6,629,065 B1) and Chithambaram et al (US 2001/0045949 A1) and further in view of Thomas A. Funkhouser, "RING: A Client-Server System for Multi-User Virtual Environments," (1995).

With regard to claims 25 and 26:

While Gadh in view of Chithambaram describes sharable data (map data), however "an interaction by a first user is detectable by at least a second user" is not explicitly shown. Funkhouser discloses a multi-user application, wherein the claimed subject matter "an interaction by a first user is detectable by at least a second user" is illustrated (fig. 4) and described (see sections 3 and 4). The multi-user application further illustrates (fig. 4) and

describes (see sections 3 and 4) "an interaction by a first user is not detectable by at least a second user.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate the sharable server (Chithambaram, fig. 1) to provide a multi-user application interface as claimed in the present invention because this incorporation enables the system of Gadh in view of Chithambaram to distribute and share common displays, multimedia conference applications and gaming among participants or collaborators.

#### CONCLUSION

8. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider this reference fully when responding to this action. The documents cited therein teach the claimed subject matter of independent claim 1. Barrus et al (US 5,736,990) describes a virtual object having at least a visible appearance element, and locale (internal) coordinate system for positioning within said virtual environment with respect to said virtual object (see Barrus, abstract). Barrus also describes the claimed subject matter of claim 14, i.e., a first virtual object and a second virtual object and at least a relationship between them, wherein said relationship is selectable to specify an action of said second object (column 4, lines 16-50). Barrus also describes a bounding box (fig. 9, #126) of a virtual object as claimed.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Tadesse Hailu, whose telephone number is (703) 306-2799. The Examiner can normally be reached on M-F from 10:00 - 6:30 ET. If attempts to reach the

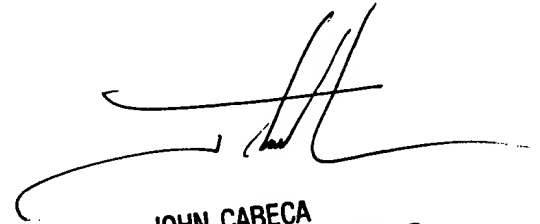
Art Unit: 2173

Examiner by telephone are unsuccessful, the Examiner's supervisor, John Cabeca, can be reached at (703) 308-3116 Art Unit 2173 CPK 2-4A51.

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

*Tadesse Haile*

November 28, 2003



JOHN CABECA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER